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The Iowa and Danish Pork Industries: A Comparison

A.S. Leaflet R2173

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Summary and Implications

Iowa produces 29.6 million market pigs per year, representing 29% of USA swine production. Denmark produces 25.2 million pigs per year and is a major component of the European pork industry and worldwide markets. Both have competitive advantages in a global pork industry. Through available data and personal experience a reflection is made on the similarities and differences between these two distinct pig producing regions.

Introduction

Abundant corn, soybeans, fertile ground and slaughter capacity make Iowa an ideal location for pork production. Nitrogen and phosphorus supplied by swine manure meet the fertilizer needs of crops produced in the state. Iowa has a rich history in the swine industry, consistently boasting the largest inventory in the USA. Iowa's diversity in production systems offers a wide range of management and market options. Across the Atlantic Ocean rests the small Scandinavian country of Denmark, home to cooperative production and marketing systems, producer funded industry support systems, and reliance on export markets to maximize value-added activities. Denmark is also home to a very prominent pork industry. The objective of this paper is to highlight the similarities and differences that make these two pig producing regions successful.

Materials

Through experience in the pork industry in both Iowa and Denmark, comparative evaluations of production and support schemes have been derived. During 1999 the author resided on a swine and crop farm in Denmark and has led three agriculture study abroad courses to Denmark, AnS 496 "Study Tour to Denmark: an Agricultural Experience." Danish students and guests have also been hosted within Iowa. Iowa State University Extension swine specialists visited Denmark in October 2005 and representatives from the College of Veterinary Medicine, the Department of Economics, and the Iowa Pork Producers Association have routinely studied Danish pork production practices, traceability and quality assurance schemes, and antibiotic and health issues in recent years. The National Agricultural Statistics Service / United States Department of Agriculture and the Danish

Agricultural Council / Danish Bacon and Meat Council annually account for inventory and productivity measures of the respective countries. Statistics utilized in this report are based on year 2004.

Results and Discussion

The Iowa swine industry represents 29% of the USA production on an annual basis. With 29.8 million pigs harvested, an estimated \$12 billion in economic activity is created annually by pork production in Iowa. Iowa maintained 1.1 million sows and imported 16.3 million weaned pigs and feeder pigs in 2004 (a number that has risen each year for the past decade), 5.4 million of which originated from Canada. The pig inventory in Iowa is 16.2 million (Dec. 2004).

Likewise in Denmark 22.9 million pigs were harvested from a production of 25.2 million. Denmark was home to 1.4 million sows producing a pig crop of 26.2 million in 2004. The domestic harvest is in addition to 2.3 million weaned, grower and finished pigs exported, primarily to Germany. The pig inventory in Denmark is 13.3 million (Dec. 2004).

Iowa maintains a larger total pig inventory while Denmark has a larger sow base. Iowa imports pigs for finishing while Denmark increasingly exports feeder pig production. Although pig inventories are similar, the base of farmland is not. Iowa's affluent crop production covers 26.8 million acres. Farming, although it constitutes 62%, the greatest single use category for land in Denmark, covers only 5.7 million acres. Iowa's primary crops of corn and soybeans are replaced in Denmark by wheat and barley. Pig density in Denmark is much greater than in Iowa, by more than four fold when figured on a farm acreage basis. Only one county in Iowa, Hardin, boasts a density anywhere near that of Denmark.

The advantages existing in Iowa center on the widespread production of corn and soybeans. As the primary feedstuffs, readily available corn and soybean meal meet the growing pigs dietary needs well. This abundant crop land requires nitrogen and phosphorus supplementation to sustain production. These nutrients are supplied by swine manure. A rich history of pork harvesting also exists in Iowa and slaughter and processing plants are readily located in and on the periphery of the state.

The advantages in Denmark include a cooperative structure for the purchases of inputs and sales of output. The national breeding company (DanBred) supplies genetic needs for over 90% of the market and two cooperatives, Danish Crown and Tican, account for 96% of domestic slaughter. The dominating cooperative

organizations result in an efficiently streamlined process and uniform product. Through cooperative ownership, the Danish farmer retains value added further in the food chain. Sow productivity gains continue to reap benefits for Denmark. While the average number of pigs weaned per sow is a reported 23.7, producing more than 30 is not unheard of and will soon become a norm. Danish pork producers focus on sow herd productivity, labor efficiency and expansion of the sow herd.

Iowa has advantages in the feeding of pigs. While generally 70% of the cost of production in Iowa is feed, this cost component in Denmark constitutes a reported 55%. However, feedstuffs in Denmark are not cheaper. Denmark must import a protein source as soybean meal, either from Brazil or the USA. The energy content of wheat and barley is inferior to that of corn and slower growth rates due to feeding practices and genetics, prevent the efficiency advantages realized in Iowa. Labor and finance costs account for a greater portion of production costs in Denmark than in Iowa. Combined with high land prices, these investment costs have production agriculture in Denmark consistently boasting the highest farm debt of all nations. However, the debt structure is much different than the norm for the USA; long term, low interest loans are held and mitigate individual farm debt concerns. Debt payoff is not a common objective.

Although the pork industry in Denmark is not free of barriers, the public does support the industry. As the number three product exported from the country, pork is important to the national economy and to rural sustainability. Over 85% of Danish pork is exported throughout world with the largest portion remaining in the EU, primarily to England and Germany. In comparison, the USA exported 13% of its pork production (1.3 million tons) but imported 62,000 tons of pork from Denmark in 2004, mostly in the form of spareribs. Denmark actively competes with the USA for the Japanese market. The

Danish population also supports the pork industry through their palate, boasting twice the annual per capita pork consumption as the USA.

With a population density over six times that of The Tall Corn State and a pig density nearly three times greater (figured on total land base), the pork industry in Denmark is thriving and growing. In the heart of corn and soybean production, Iowa has much to gain with its expanding base as well. Both regions have potential in a global marketplace and an increasing population base. Denmark anticipates thriving through its cooperative production and marketing chains, strong internal support systems, and an emphasis on high value production centered on sows instead of finishing. Iowa will prosper due to its balance of crop production and land for manure, accessibility of inexpensive feed ingredients and availability and diversity of markets.

Table 1. Pork production in Iowa and Denmark.

	Iowa	Denmark
<i>Pig inventory (million)</i>	16.1	13.3
<i>Sows</i>	1.1	1.4
<i>Pigs</i>	15.0	11.9
<i>Pig crop (million)</i>	15.3	26.2
<i>Live imports (million)</i>	16.3	0
<i>Live exports (million)</i>	0	2.3
<i>Annual production (million)</i>	29.6	25.2
<i>Annual slaughter (million)</i>	29.8	22.9
<i>Harvest weight (lbs)</i>	268	227
<i>Human population (million)</i>	2.9	5.4
<i>Area (sq. miles)</i>	56,240	16,629
<i>Total arable farmland (million acres)</i>	26.8	5.7
<i>Pig density (per acre)</i>	0.56	2.30
<i>(per sq. mile)</i>	358	1468